

CLAIMS

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1. A hybrid telecommunications switch comprising:
at least one circuit switched switch fabric;
at least one packet switched switch fabric; and
a controller configured to separate telecommunications traffic received at the hybrid switch, including asynchronous transfer mode (ATM) traffic characterized by at least one service category, and to direct traffic to either a circuit or packet switch fabric, the controller directing ATM traffic of at least one service category to a circuit switched switch fabric.
 2. The switch of claim 1 wherein a portion of the circuit switch resources are provisioned for synchronous transfer mode (STM) traffic and the remaining portion of the circuit switch resources are allocated to ATM traffic as the controller routes the ATM traffic to the circuit switch.
 3. The switch of claim 2 wherein the controller is configured to employ a connection admission control algorithm to allocate circuit switch resources to ATM traffic.
 4. The switch of claim 3 wherein the controller is configured to route constant bit rate (CBR) ATM traffic to a circuit switch.
 5. The switch of claim 3 wherein the controller is configured to route real time variable bit rate (rt-VBR) ATM traffic to a circuit switch.
 6. The switch of claim 3 wherein the controller is configured to route ATM traffic which is neither CBR nor rt-VBR traffic to a packet switch.

7. The switch of claim 3 wherein the controller is configured to allocate available circuit switch resources, as indicated by a resource table, to received ATM traffic requests.
8. The switch of claim 7 wherein the controller is configured to maintain circuit switch ingress and egress resource tables.
9. The switch of claim 7 wherein the controller is configured to pass an ATM traffic request to a destination node and to establish an ATM traffic path after having determined that all nodes along the proposed traffic path have accepted an ATM traffic request.
10. The switch of claim 9 wherein the controller is configured to determine whether received rt-VBR ATM traffic is to be switched through a circuit switch.
11. The switch of claim 10 wherein the controller is configured to determine whether rt-VBR ATM traffic is to be switched through a circuit switch based upon the traffic's peak-to-sustained cell rate ratio.
12. A method for switching telecommunications traffic in a hybrid telecommunications switch for switching asynchronous transfer mode (ATM) traffic characterized by one or more service categories, comprising at least one packet switch fabric and one circuit switch fabric, at least one circuit switch fabric, and a controller, the method including the steps of:
 - (A) the controller separating telecommunications traffic received at the switch,
 - (B) the controller directing traffic to either a packet or a circuit switch fabric, with ATM traffic of at least one service category being directed to a circuit switch fabric.
13. The method of claim 12 further comprising the step of

21. The method of claim 20 further comprising the step of:
(G)the controller determining that all nodes along the proposed ATM traffic path have allocated circuit switch resources for the ATM traffic.
22. The method of claim 21 further comprising the step of:
(H)establishing an ATM traffic path after the determination of step (G).
23. The method of claim 21 further comprising the step of:
(I) the controller determining whether rt-VBR ATM traffic is to be switched through a packet switch fabric or a circuit switch fabric.
24. The method of claim 23 wherein step (I) comprises the step of:
(I1) the controller comparing the traffic's peak-to-sustained cell ratio to a threshold value.
25. The switch of claim 7 wherein the controller is configured to pass an ATM traffic request to a destination node.
26. The switch of claim 7 wherein the controller is configured to determine that all nodes along the proposed ATM traffic path have allocated circuit switch resources for the ATM traffic.
27. The switch of claim 7 wherein the controller is configured to establish an ATM traffic path after determining that all nodes along the proposed ATM traffic path have allocated circuit switch resources for the ATM traffic.
28. The switch of claim 7 wherein the controller is configured to determine whether rt-VBR ATM traffic is to be switched through a packet switch fabric or a circuit switch fabric.

29. The switch of claim 28 wherein the controller is configured compare the traffic's peak-to-sustained cell ratio to a threshold value to thereby determine whether the rt-VBR ATM traffic is to be switched through a packet switch fabric or a circuit switch fabric.

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